Gold Standard
Climate Security & Sustainable Development

IOTA

ClimateCHECK

OPEN COLLABORATION
DIGITAL MRV WORKING GROUP

WORKING GROUP PILOT SUMMARY REPORT

November 2023

INTRODUCTION

The following paragraphs provide an introduction on the development of Digital Readiness Assessments for Digitally enabled GHG mitigation or adaptation projects. This pilot initiative aimed to evaluate the readiness of various projects in adopting digital solutions for measuring, reporting, and verifying greenhouse gas (GHG) emissions. A total of 14 submissions were received, offering valuable insights into the digital readiness of eight different markets.

The pilot process focused on assessing four key aspects through the Digital Readiness Assessments. Firstly, the Assessing Readiness for Digitizing a GHG Methodology section delved into the preparedness of each market in embracing digital transformation for GHG mitigation or adaptation projects. This included evaluating the existing infrastructure, technical capabilities, and organizational readiness to implement digital solutions effectively.

The second section, Assessing the Digital MRV (Measuring, Reporting, and Verification) Solution, aimed to gauge the suitability and effectiveness of the digital tools and methodologies proposed for monitoring and reporting GHG emissions. This assessment examined the features, functionalities, and compatibility of the digital MRV solution with the specific market context, considering factors such as data collection, analysis, and reporting mechanisms.

The third section, Assessing the Environmental Footprint of the Digital MRV Solution, explored the environmental impact of adopting digital solutions for MRV processes. This assessment assessed the potential carbon footprint associated with the implementation of digital tools, taking into account factors like energy consumption, hardware requirements, and data management practices. It aimed to provide insights into the sustainability aspects of the proposed digital MRV solution.

Lastly, the pilot process included the section on Determining Digital Requirements in the proposed GHG Methodology. This section focused on identifying the specific digital requirements that should be integrated into the proposed GHG methodology to ensure accurate and reliable measurement, reporting, and verification of emissions. It addressed considerations such as data security, interoperability, scalability, and adaptability to future technological advancements.

By analyzing the 14 submissions from various markets, this pilot summary report presents a comprehensive overview of the digital readiness landscape in the context of GHG mitigation or adaptation projects. The report highlights the strengths, weaknesses, and potential areas of improvement for Digital Readiness Assessments, aiming to enable them to provide valuable insights for policymakers, project developers, and stakeholders seeking to enhance their digital readiness and leverage digital solutions for effective climate action.

Number of Submissions

1. Of Methodologies - 3
    1.1. Two submissions of methodologies identifying digital requirements, ACM0001, and ACM0002
    1.2. One Digital Methodology submission, ATEC Metered Cooking Methodology
2. Of Readiness Assessments - 14
    2.1. **DigitalMRV (CC/IF)** - ACM0001 Flaring or use of Landfill Gas in Chile
    2.2. **Allcot & Hedera** - Digistove E-Spark
    2.3. **Hedera, Helioz & Everycity** - Safewater Supply in Uganda
    2.4. **CT Green Bank & ClimateNeutral** - EV Charging Methodology Readiness Assessment
    2.5. **AllInfra** - Grid Connected Electricity Generation ACM0002
    2.6. **CarbonFuture** - BioChar, Multiple methodologies
    2.7. **ATEC** - Clean Cooking Methodology
    2.8. **Sequestra** - Multiple submissions
        2.8.1. Food Waste - CDM ACM0022
        2.8.2. Low Carbon Asphalt - New Methodology Required
        2.8.3. Low Carbon Concrete - VCS VM0043
        2.8.4. Plastic Recycling - AMS-III.AJ
        2.8.5. Sustainable Communities - VCS VM0008 & 0018
        2.8.6. Tire Recycling - New Methodology Required
        2.8.7. Methane Well Capping - ACR Orphan Oil & Gas Well Methodology
    2.9. **SustainCert** - Grid Connected Electricity Generation ACM0002

Focal Markets

1. Mobility - 1
2. Clean Cooking - 2
3. BioChar - 1
4. Safewater Supply - 1
5. Waste - 4
6. Energy - 2
7. Construction - 2
8. Other - 1

COMMONALITIES

Commonalities were gathered identifying general strengths and weaknesses of submissions across all applicants to help understand what aspects of the Readiness Assessment process are currently operating effectively. They are separated by what was understood across all submissions per section of the existing Readiness Assessment structure. Once common strengths and weaknesses were identified, key takeaways were annotated to identify improvements that can be made to refine the utility and ease of understanding of the Readiness Assessment structure for the next version which will now begin development.

Common Strengths

1. Assessing Readiness for Digitizing a Methodology -
    a. Strong level of detail from many of the applicants. All applicants highlighted in good detail one of two perspectives. 1 being the perspective of digitizing a methodology rooted in a planned or existing implementation, or 2 being the perspective of digital methodology development in alignment with their platform or DMRV solution. There was some misunderstanding on the requirements between the two, but most applicants at least provided strong details from their perspectives.
2. Assessing DMRV Solution -
    a. Digital monitoring capabilities were well detailed across almost all applicants. The various submissions generally provided good initial understandings of the industries they were looking to operate in. For those that outlined DMRV solutions and not just digital monitoring capabilities, the solutions were well detailed, and none of the submissions utilized blockchain technology that would be deemed inappropriate for emissions reporting. Some DMRV solutions were very highly detailed, and some applicants have digitally ready projects that are ready for a DMRV solution, but may not have a solution per se in place. Showing that while DMRV solutions are starting to surface, there are opportunities for DMRV solutions to be implemented in alignment with methodologies at potentially large and national scales.
3. Assessing Environmental Footprint of DMRV Solution -
    a. Blockchain based solutions seem to have a much higher awareness of their energy and emission footprint, than solutions not currently utilizing a blockchain based DMRV solution.
4. Determining Digital Requirements in GHG Methodology -

   a. Steps along the data trail were commonly understood in general and digital priorities or the understanding of what aspects of the data trail remaining in a conventional or analog process and which transition to a general were well identified.

Common Weaknesses

5. Assessing Readiness for Digitizing a Methodology -
   a. There seems to be a misunderstanding that this section is not asking for information on the DMRV solution and process, but is asking for readiness information regarding the specific project type and implementation that the monitoring would be implemented into. This needs to be clarified in v2.0 of the Readiness Assessment.
6. Assessing DMRV Solution -
   a. Many applicants did not actually outline a DMRV solution, so it's evident that there is a lack of clarity and understanding in what a solution would be classified as. There was a good amount of input on DMRV activities that are enabled by implementations or project operators, but not a scope on an actual solution minus a few applicants.
7. Assessing Environmental Footprint of DMRV Solution -
   a. Overall, this section was very difficult to ascertain for applicants. Aside from those using Polygon, Hedera, or IOTA, no benchmarks or emissions understanding seemed to be generally present or well detailed.
8. Determining Digital Requirements in GHG Methodology -
   a. Section needs to be restructured to better communicate the questions, identify input on relevant standards and existing external guidance that is already taken into account for project design and development, and better map stakeholders across a methodology or implementation with their steps along the data trail. We should also aim to refine the flow and the target audience for these sections. Some of the applicants were project developers and operators, and not focused on methodologies, or had external contractors do the methodology development. So we should ensure in the future that the relevant parties for each section are the ones filling out the sections, or the sections are partitioned in an A/B format if there are different parties a section may apply to.

Recommended Assessment Improvements

Key points for development of Readiness Assessment for Digitizing a Methodology V2.0:

1. What a Digital MRV Solution is needs to be defined and explicit up front. Some of the applicants outlined Digital MRV enabling capabilities in projects, but did not actually outline a comprehensive DMRV solution. Visuals would help make this much more clear.
2. We must outline that applicants submitting a Readiness Assessment are required to do so in alignment with a project. The initial section, "Assessing Readiness for Digitising a GHG Methodology," is meant to be focused on a project and it's enabling components. The project identified must show evidence that it can provide the necessary data to feed into a digital methodology and a digital MRV solution. This was unclear in v1.0 of the document, but must be very clear in the next iteration. Some applications provided insight into opportunities for digitizing a methodology, but they did not have a secured or active project that they were integrating Digital Monitoring, Reporting or Verification capabilities for. Without a project, all that's present is initial market research and a baseline of assumptions that still need to be cleared for validating integrations of a DMRV platform with a digital methodology targeted on the specific project types.
3. Some applicants outlined system boundaries with regard to their DMRV solution, which was very useful in understanding the scope of the DMRV solution in development and should be a reporting requirement in v2.0.
4. There was good feedback on ISO certification requirements being recommendations and not requirements due to the infancy of ventures producing DMRV solutions. When we publish the culminating guidance, we must ensure that things such as this are *recommendations* and not **guidance.**
5. Need to define what transparency means directly and explicitly in the beginning. The goal of the readiness assessment, project design documents, and digital/digitized methodologies is to provide transparency into projects looking to earn carbon credits, which assists in garnering higher levels of trust and confidence in the market as a whole.

Recommendations for Open Collaboration Process Improvements and Next Steps for DMRV

Based on the WG development work and public consultation feedback of the guidance documents, as well as the pilot process, the following issues and actions are recommended for next steps:

Whereas the 2022-2023 Open Collaboration gathered many stakeholders and developed initial guidance, going forward it is essential to develop an outline for a new process to

engage stakeholders more effectively to focus on their top priorities and to increase participation (quantity and quality) before implementing the new process. The new process should be outlined in a phased approach to reflect the reality that DMRV will continue to be at an early stage over the short term (2-3 years) and therefore short term requirements/approvals should reflect that level of maturity. Longer term requirements should work towards a full maturity model as 'the new field of DMRV' when fully operational.

The new process should establish a 2-track approach as part of new process

- Continue to develop a general framework (terminology, common requirements, etc)
- Support development of sector specific leading solutions to focus on specific methodologies and parameters

Examples of potential changes for organizing the next phase such as

- Increase stakeholder engagement such as more frequent information sessions, social media interactions, stakeholder surveys, etc.
- An impartial committee and/or institution consisting of technical organizations, academic institutions, assurance bodies, and standards bodies to test, review solutions and consider recommendations for requirements (e.g. selection/use of digital technologies for blockchain, IoT, AI…)
- Establishing partnerships with related initiatives (CADT) to cooperate on testing and reviewing solutions, as well as sharing resources
- Enhancing the interactions with related WGs (Digital Assets, Digital Infrastructure & APIs) and other initiatives